

*FIG. 1*

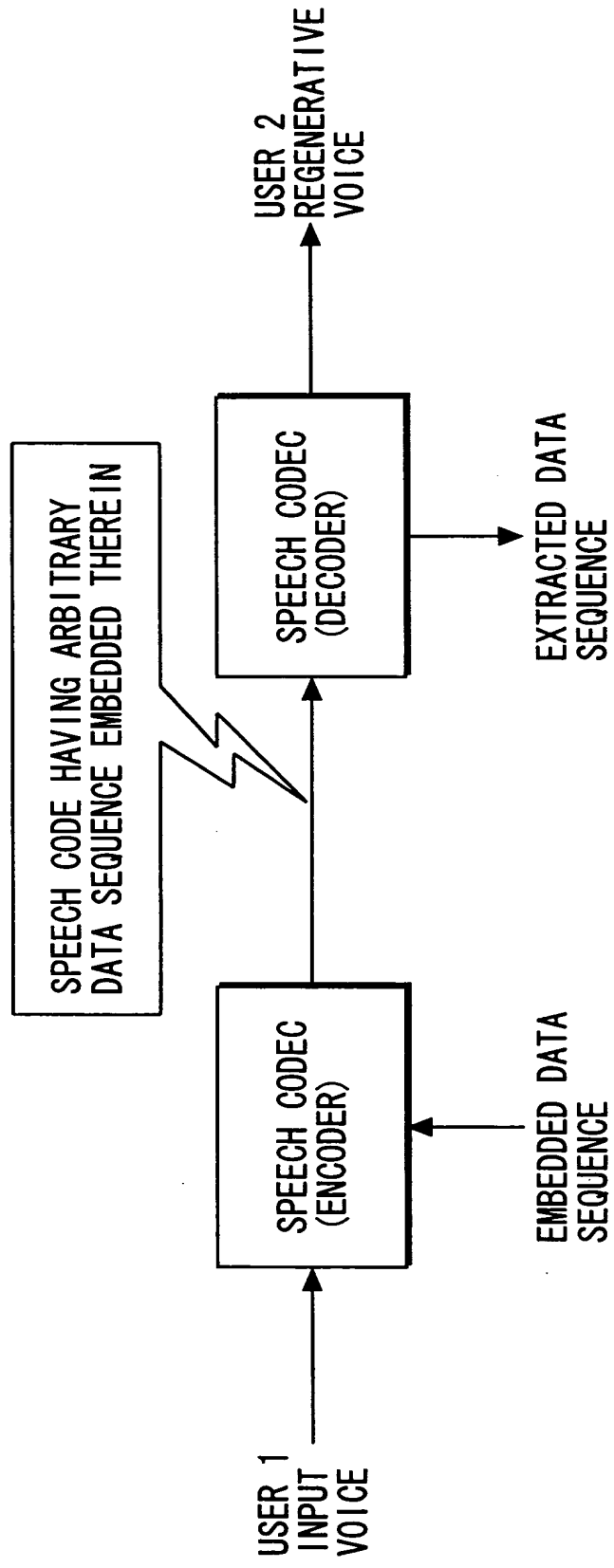


FIG. 2

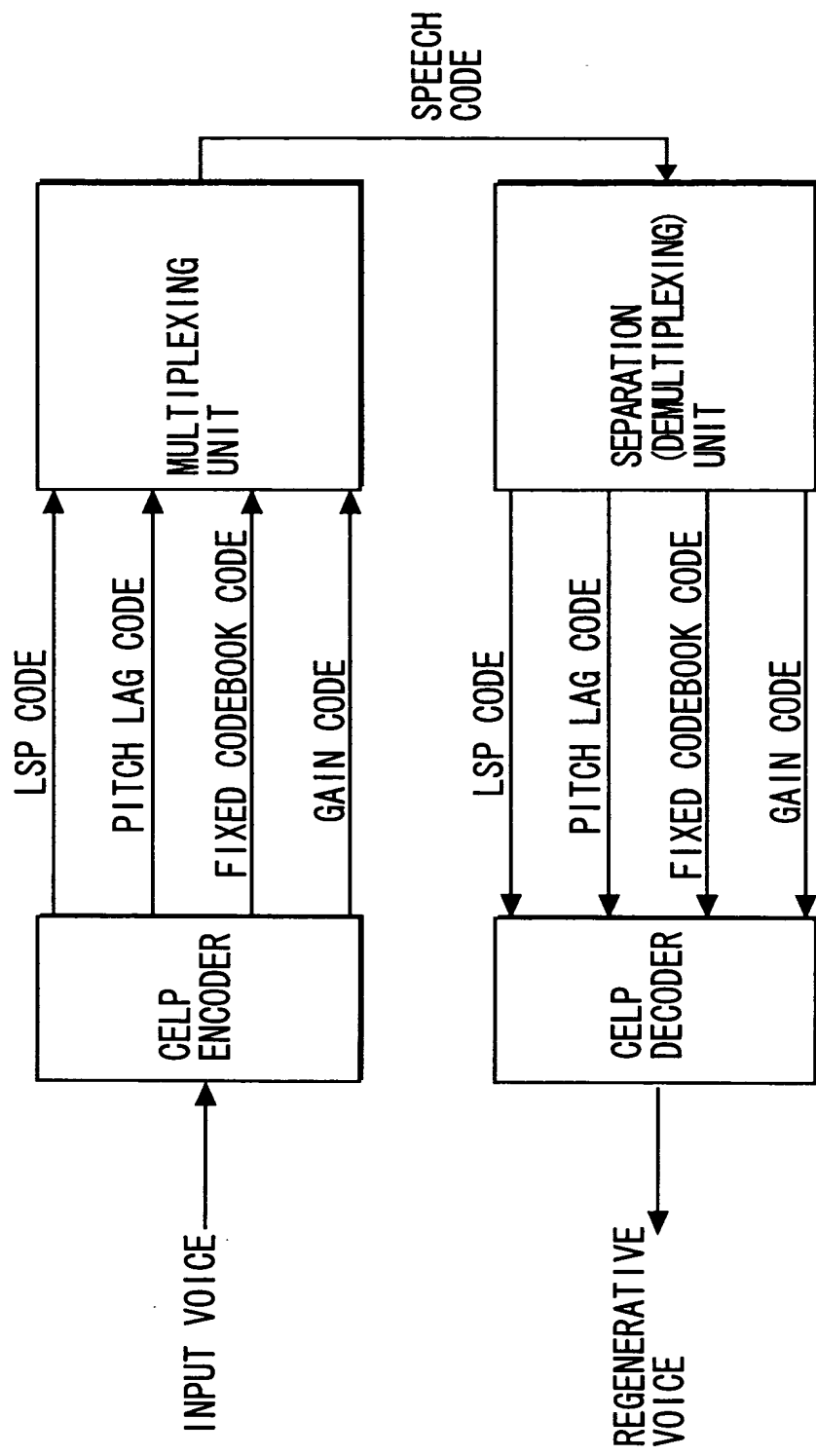
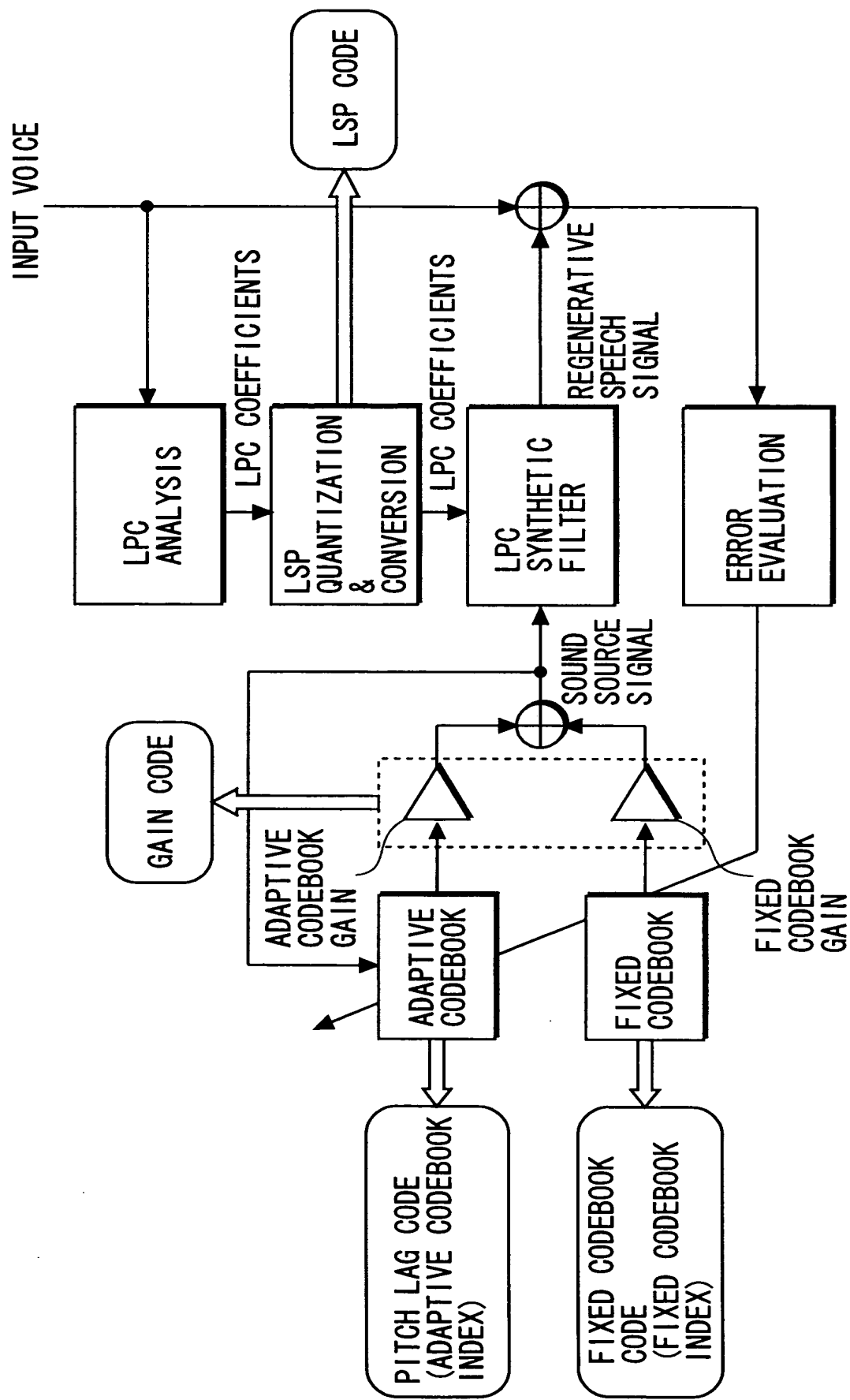


FIG. 3



*FIG. 4*

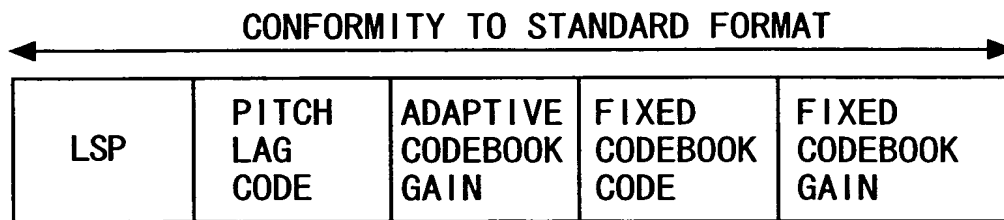


FIG. 5

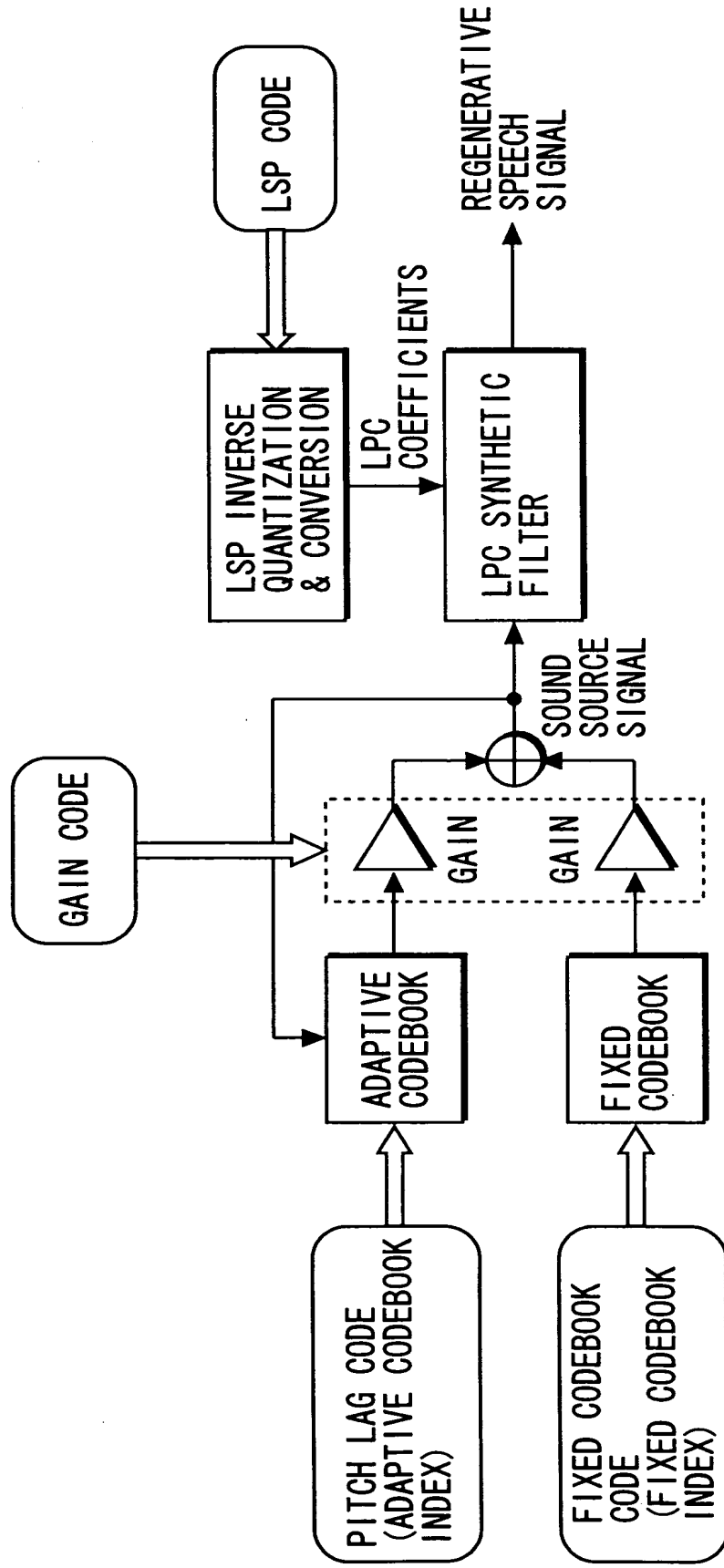


FIG. 6

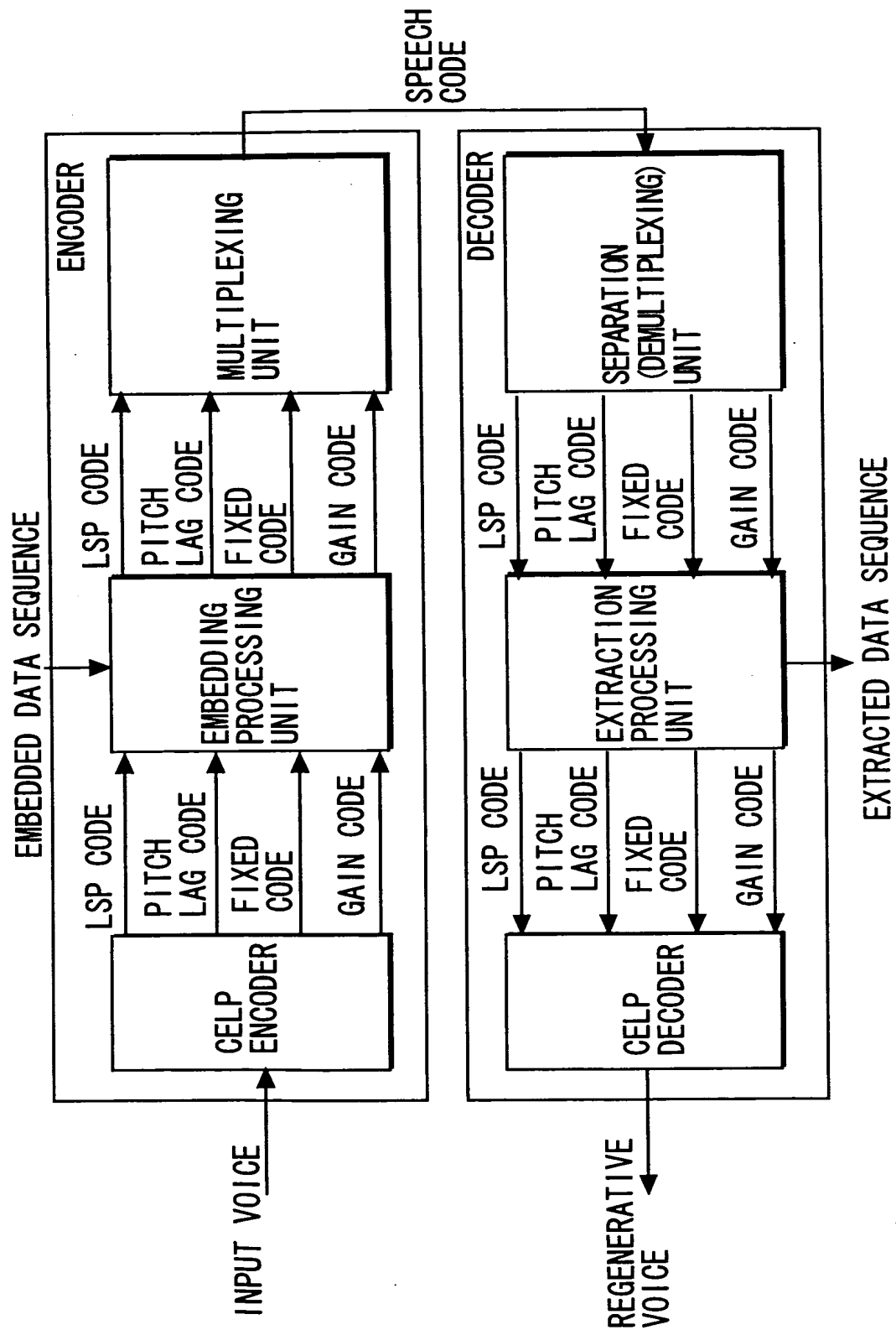


FIG. 7A

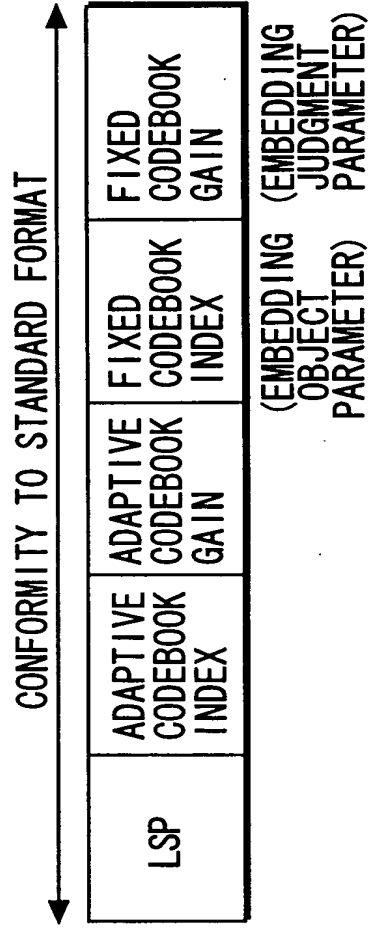


FIG. 7B

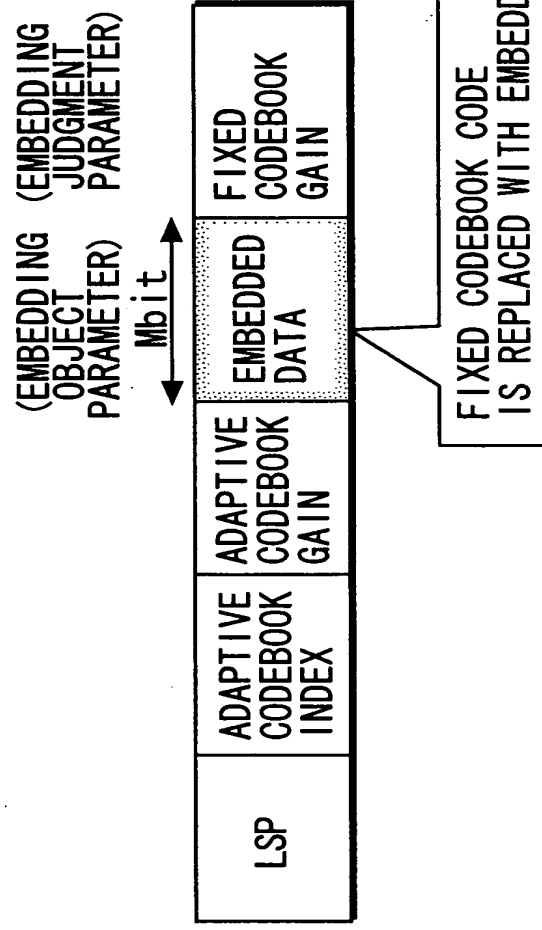


FIG. 8A

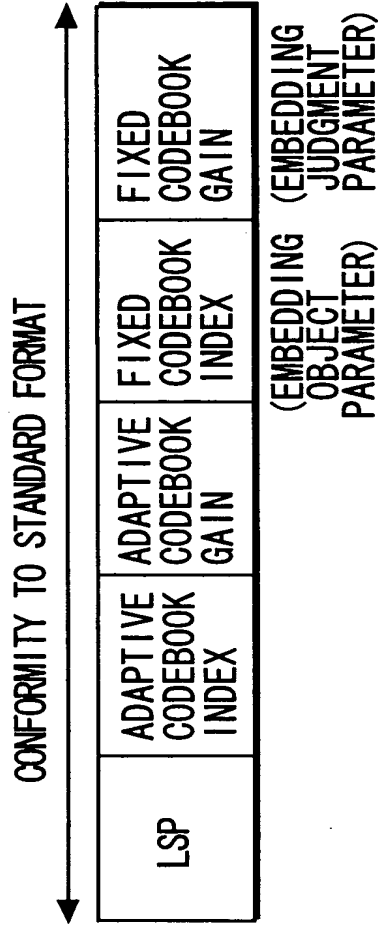


FIG. 8B

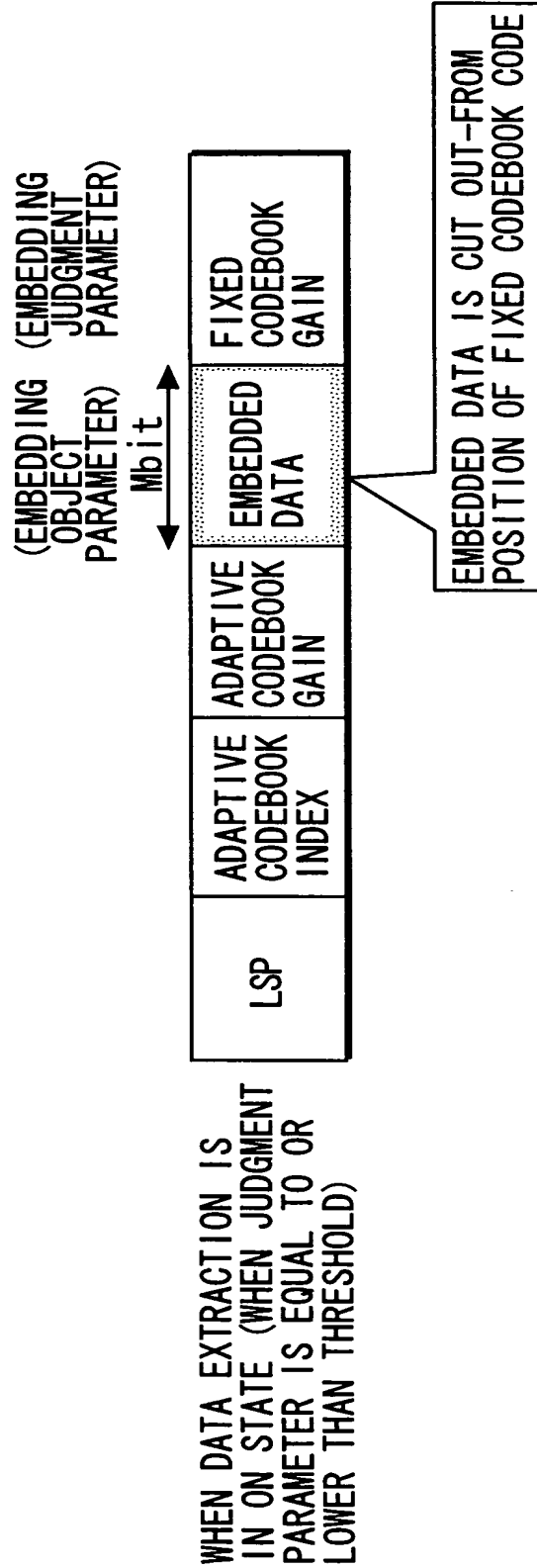




FIG. 9

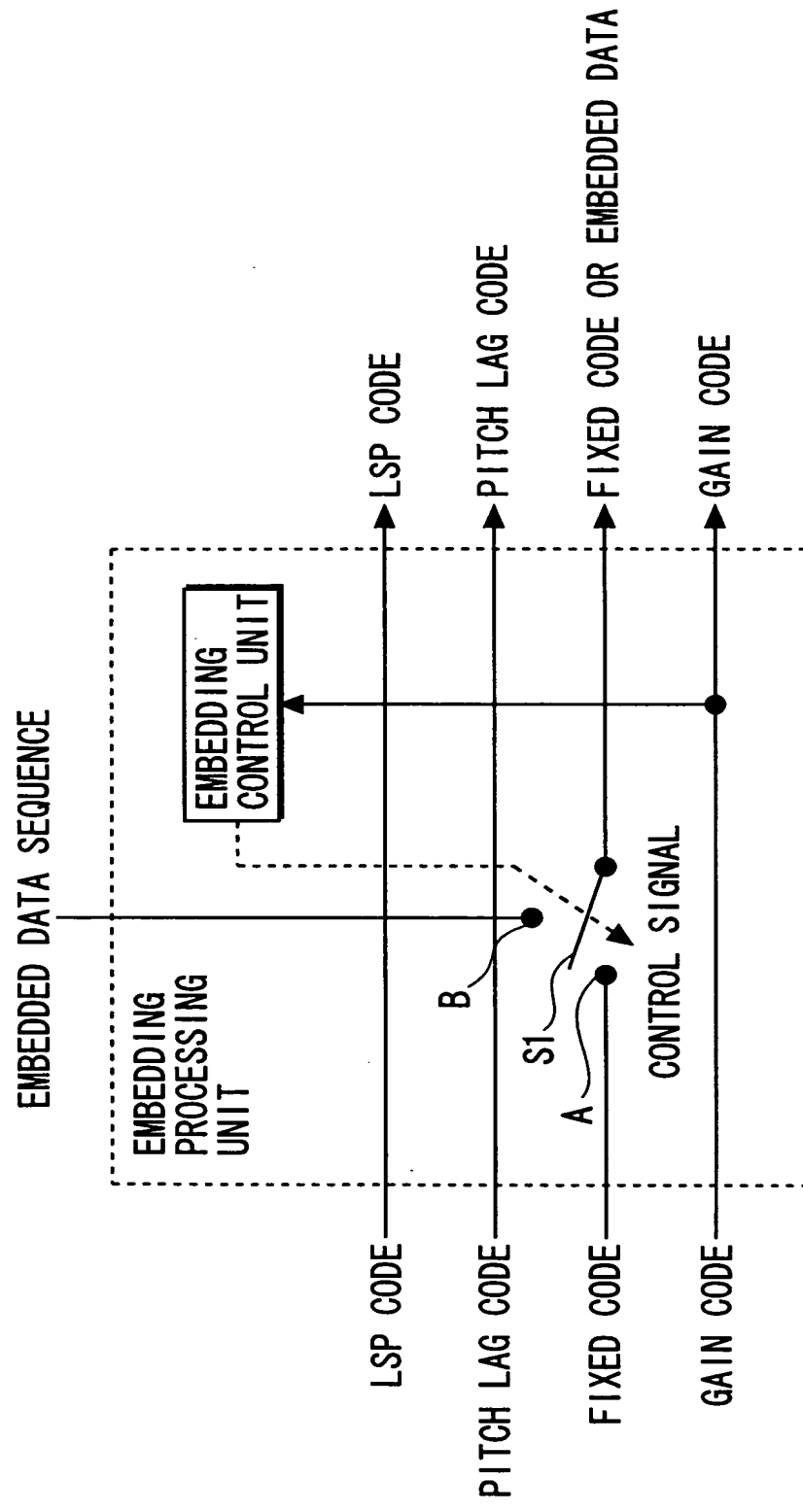


FIG. 10

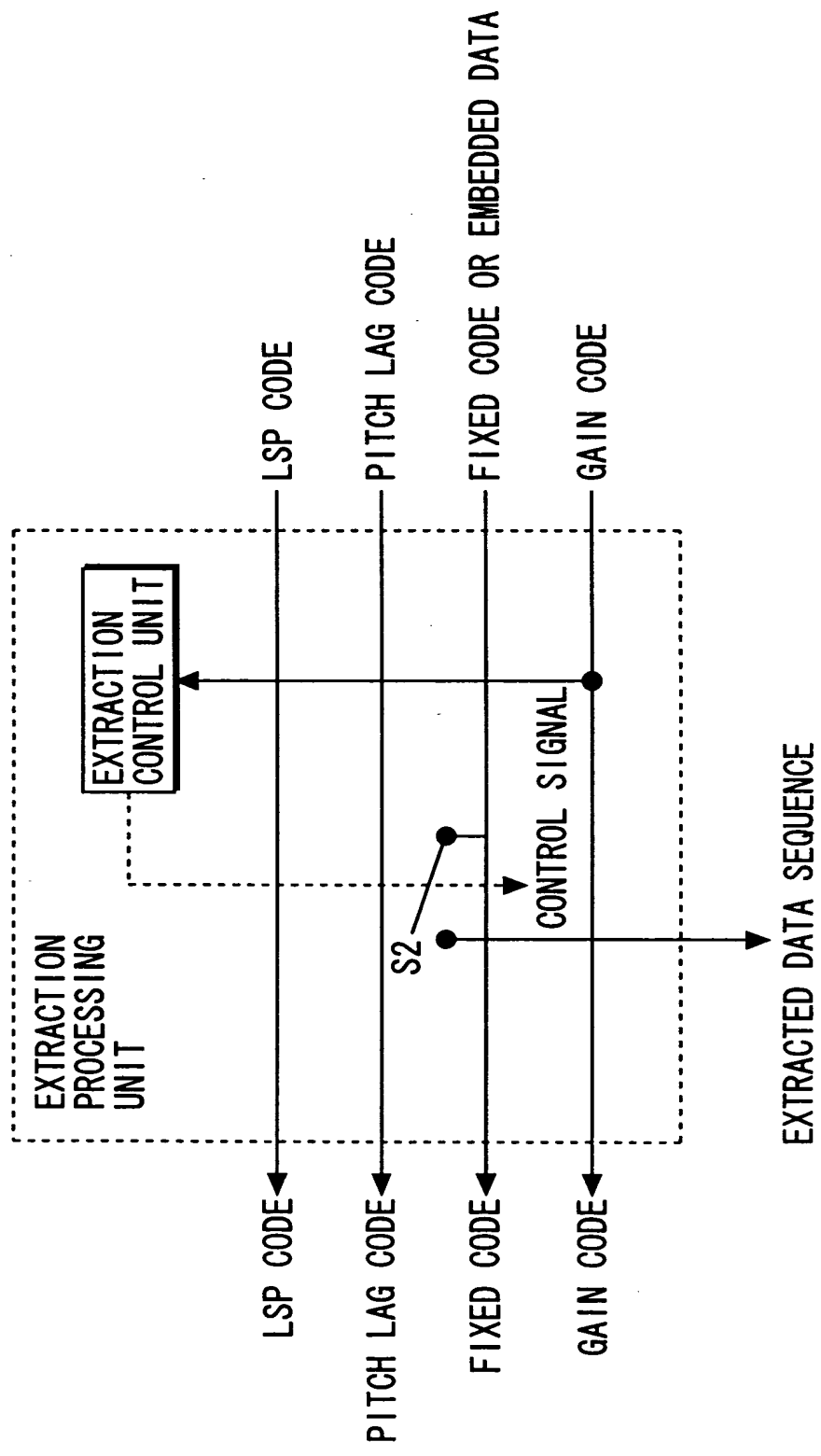
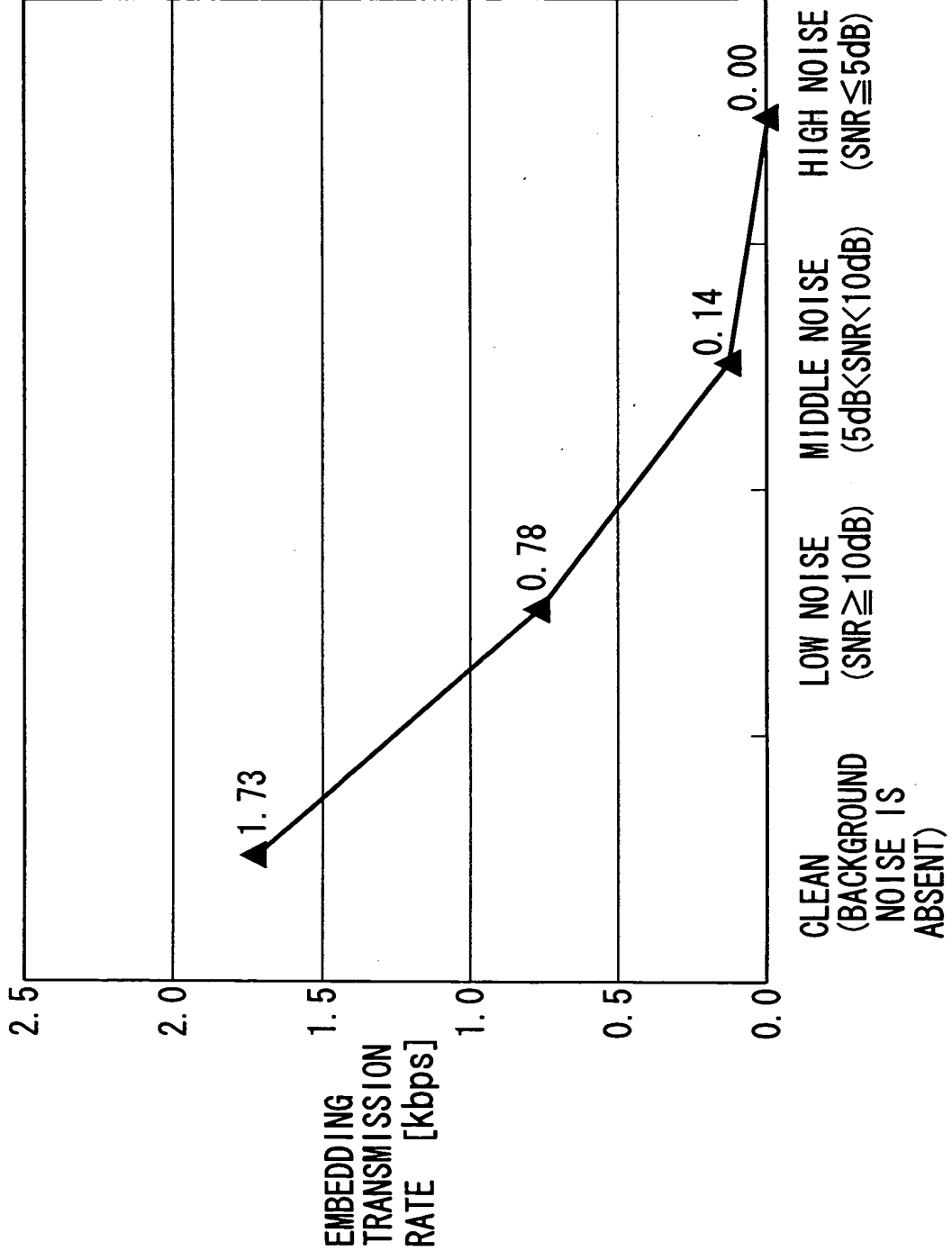


FIG. 11



VARIOUS LEVELS OF BACKGROUND NOISE

FIG. 12

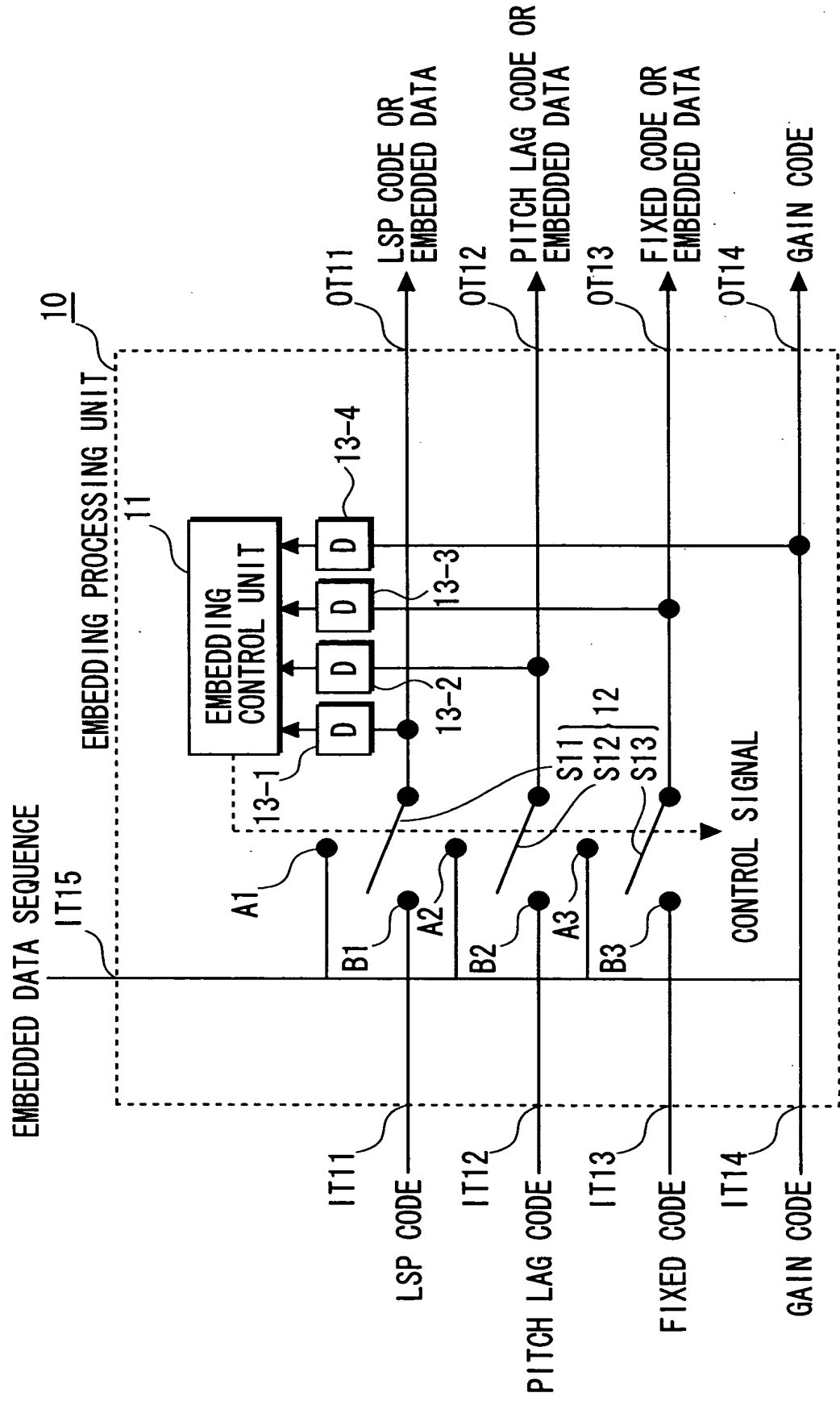


FIG. 13

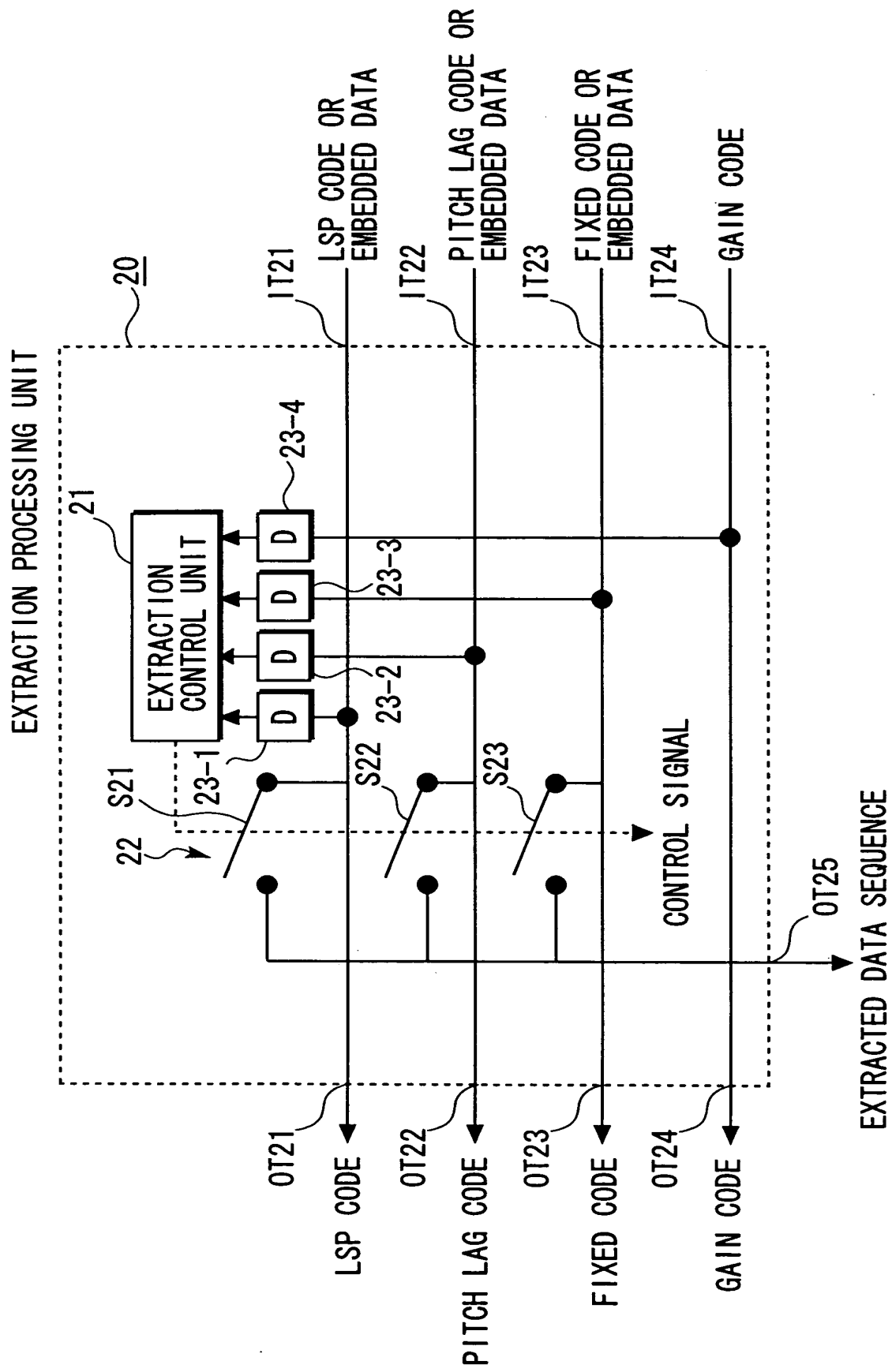
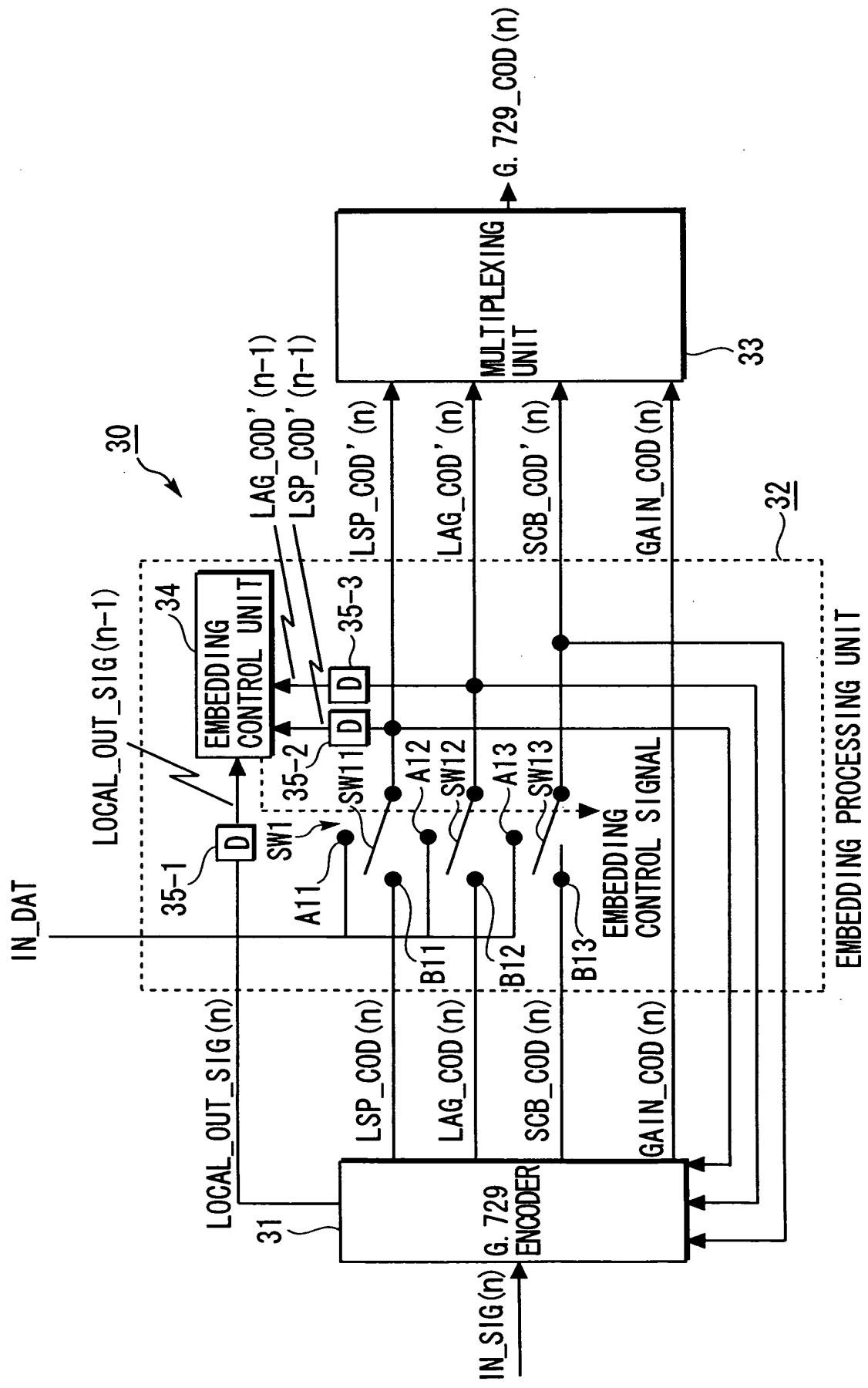


FIG. 14



## *FIG. 15A*

TABLE 1: ITEMS OF G. 729 SPEECH ENCODING METHOD

TRANSMISSION RATE	8kbit/sec
SAMPLING FREQUENCY	8kHz
FRAME LENGTH	10ms (80 SAMPLES)
SUB-FRAME LENGTH	5ms (40 SAMPLES)

## *FIG. 15B*

TABLE 2: TRANSMISSION PARAMETERS OF G. 729  
SPEECH ENCODING METHOD AND BIT ASSIGNMENT

TRANSMISSION PARAMETER	BIT ASSIGNMENT [BIT]
LSP CODE	18
PITCH LAG CODE	13 (8/5)
ALGEBRAIC CODE	34 (17/17)
GAIN CODE	14 (7+7)
PITCH PARITY	1
TOTAL	80 [80BIT/FRAME]

NOTE: ( ) CONTENTS IN PARENTHESES REPRESENT BIT  
ASSIGNMENT FOR EACH SUB-FRAME

FIG. 16

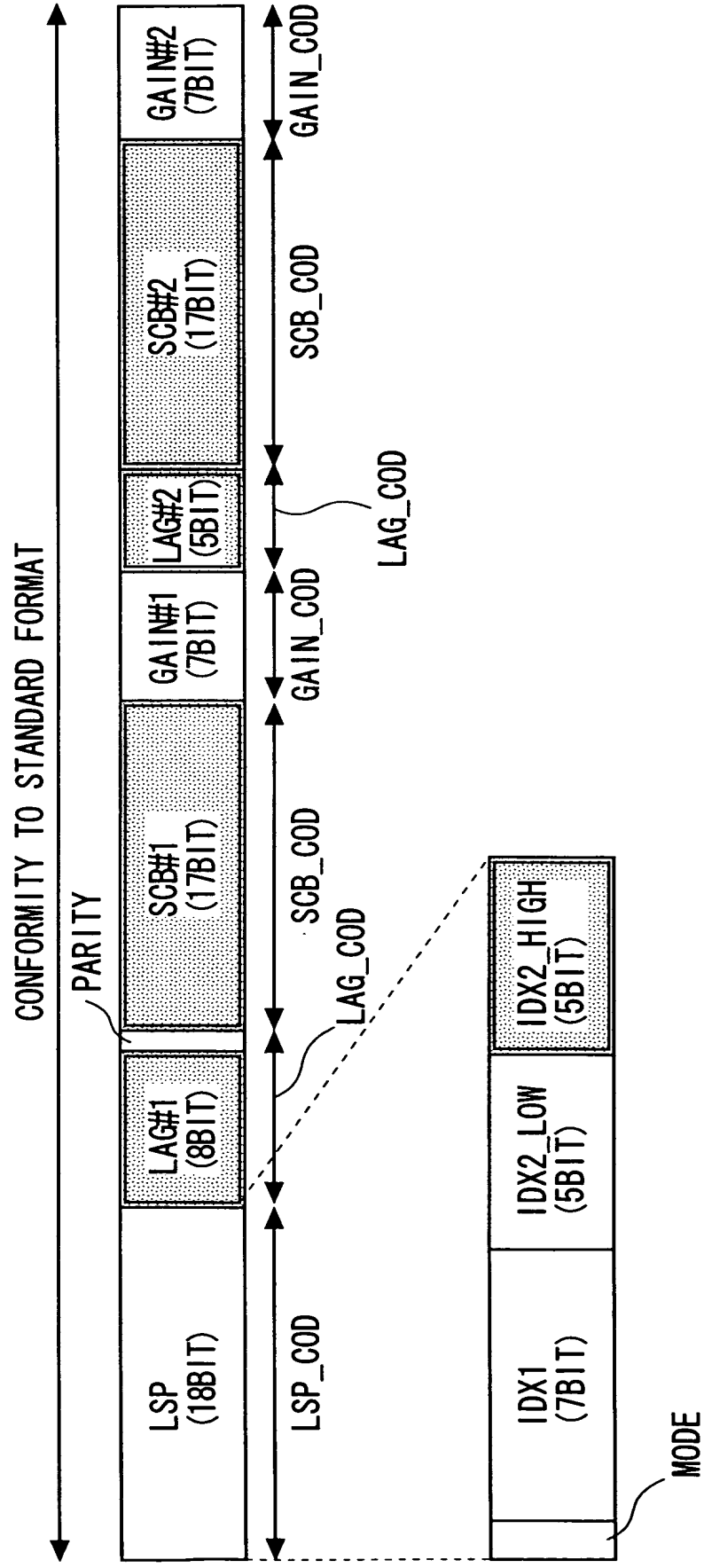




FIG. 17

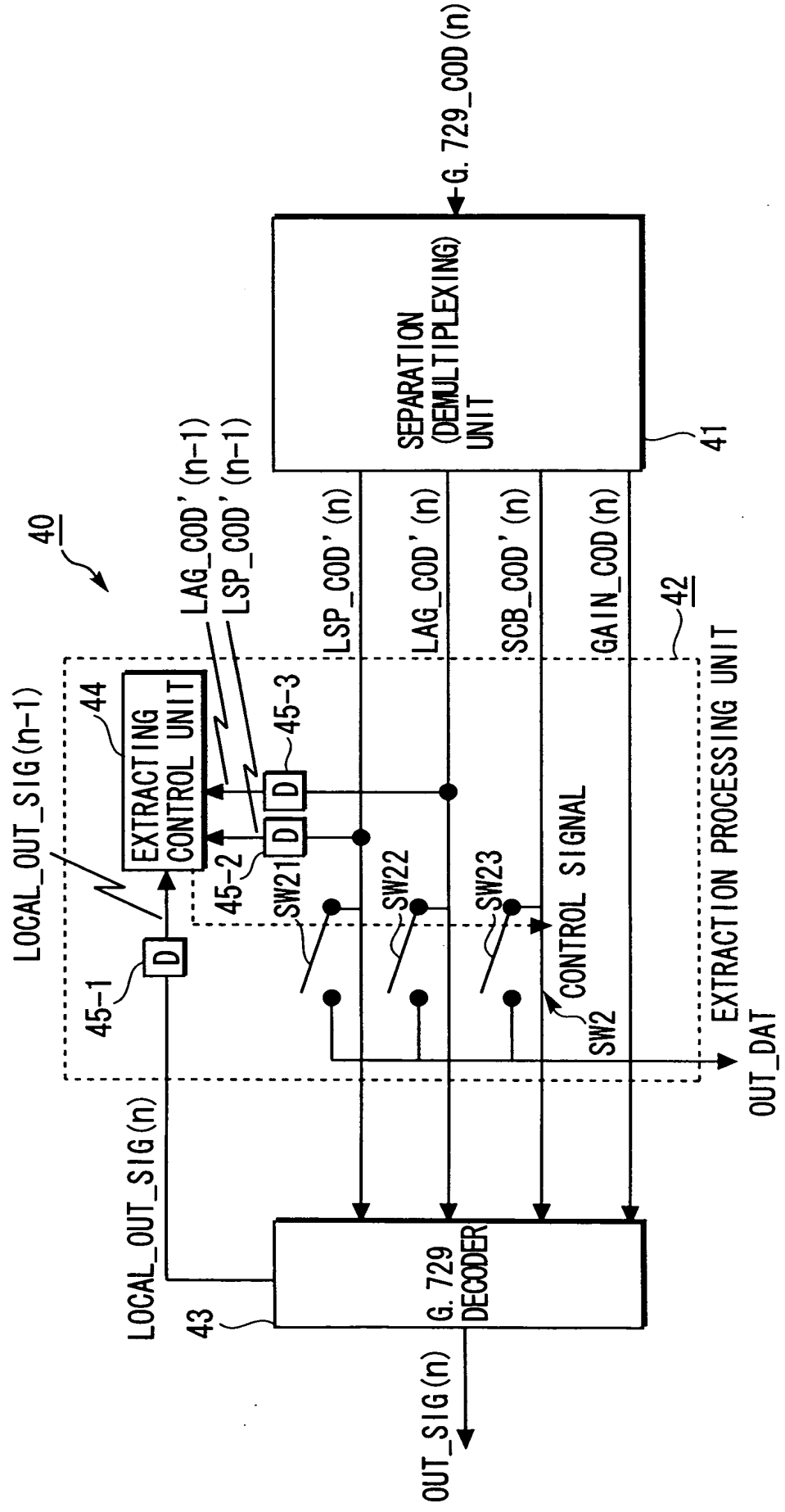
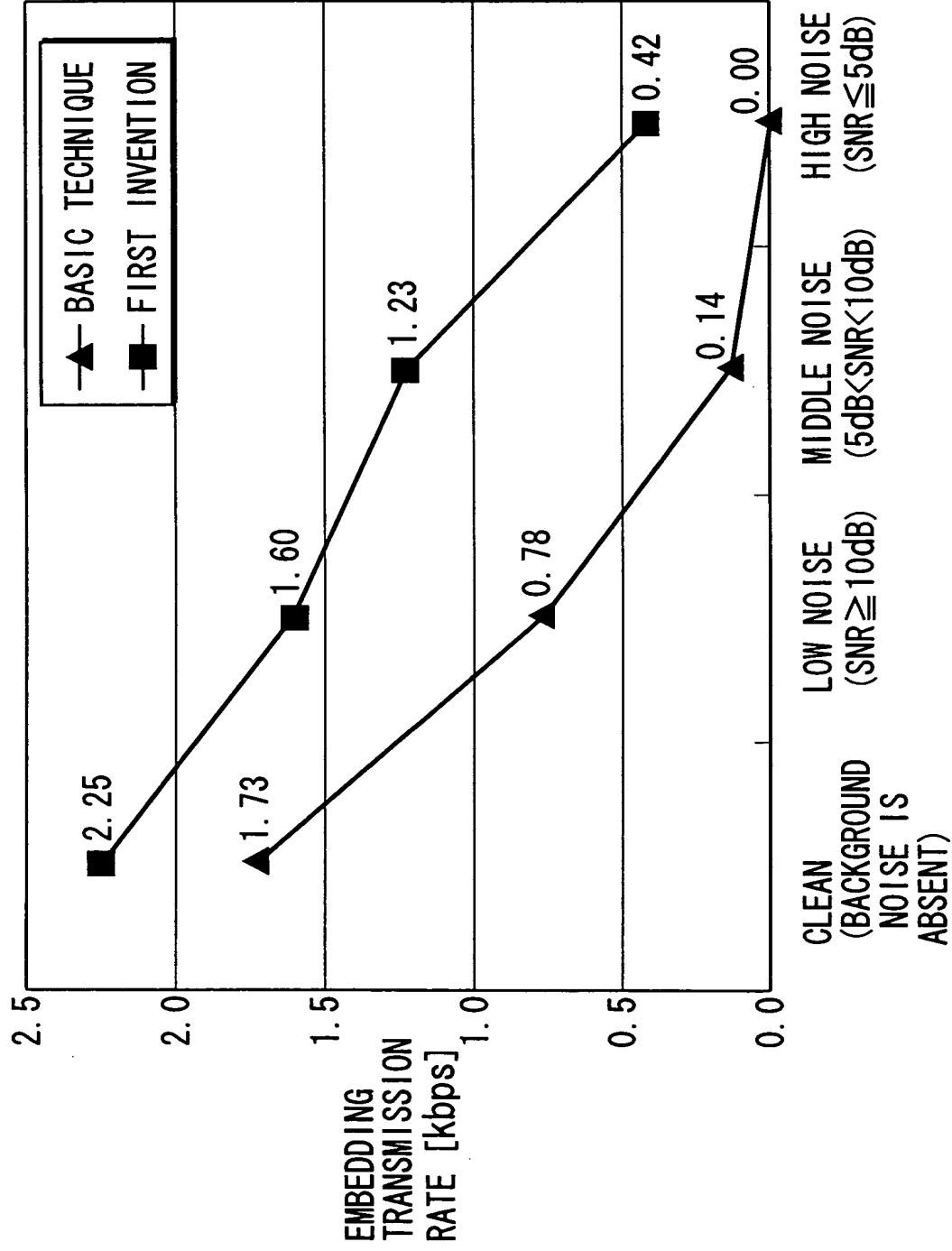


FIG. 18



VARIOUS LEVELS OF BACKGROUND NOISE

*FIG. 19*

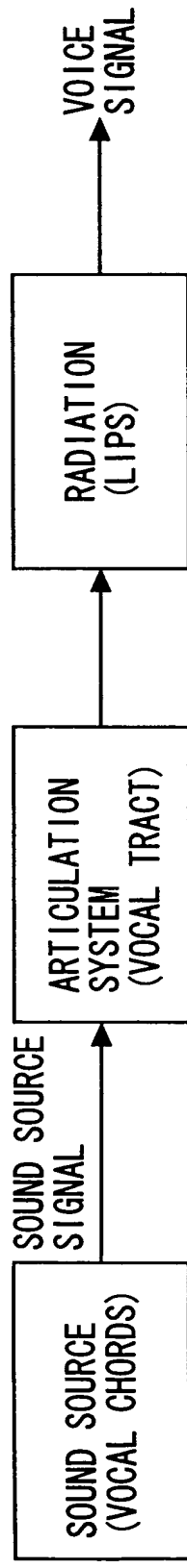


FIG. 20

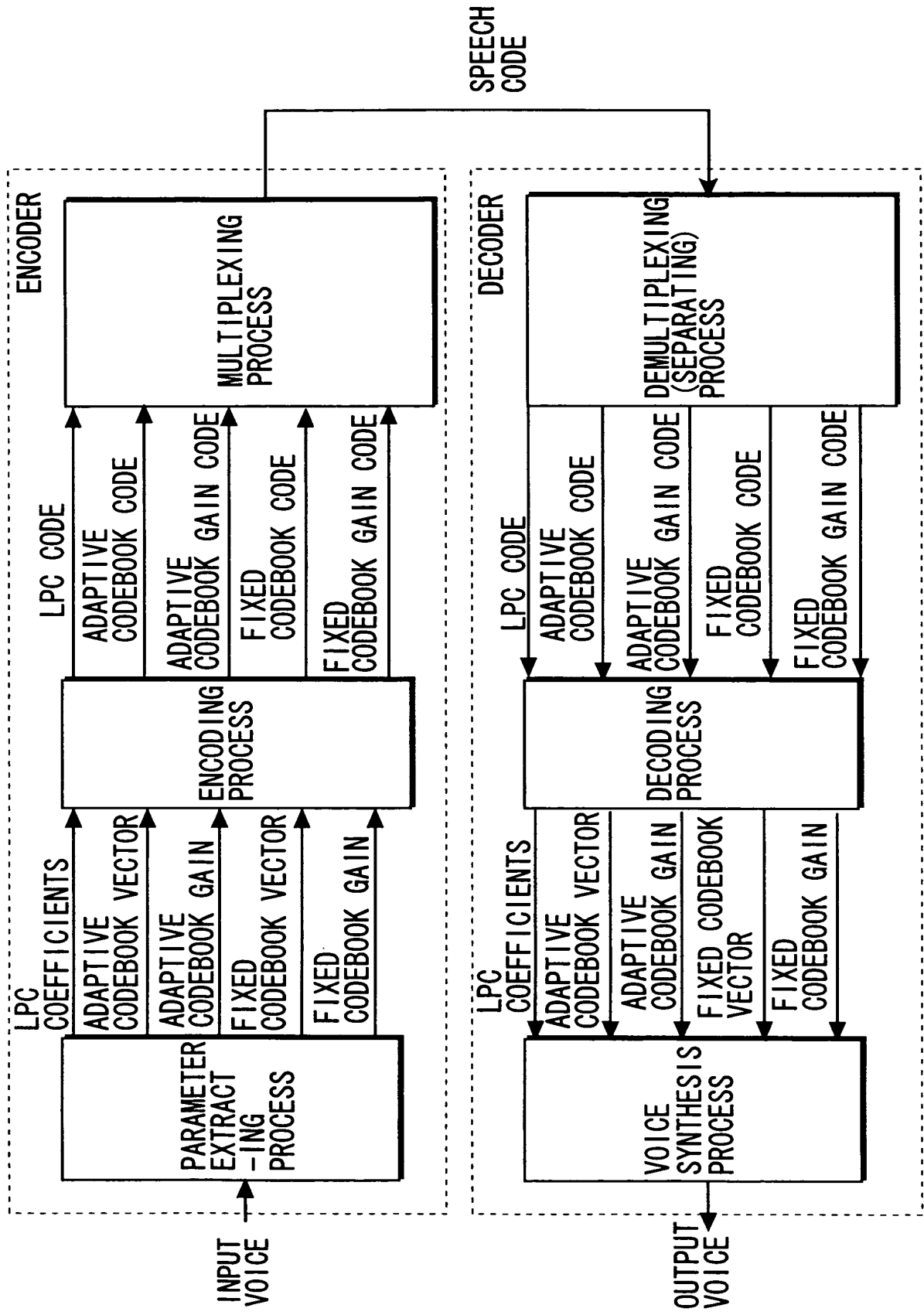


FIG. 21A

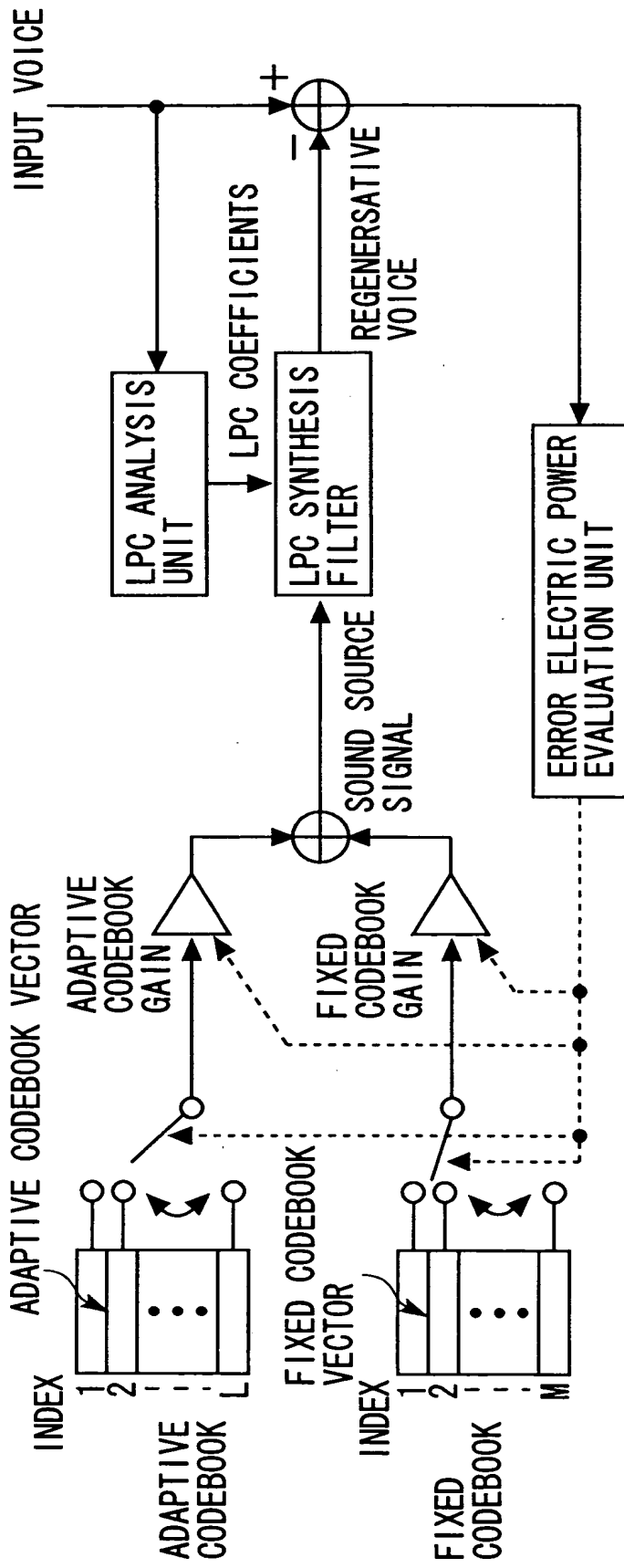


FIG. 21B

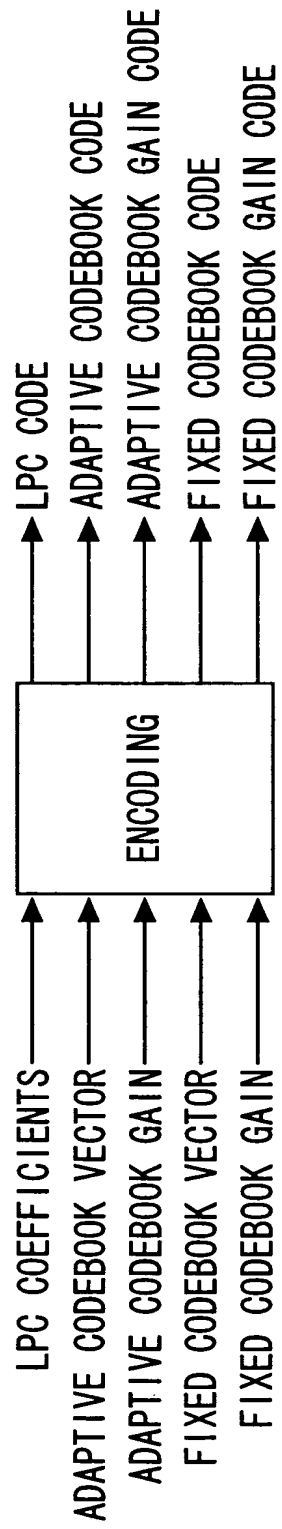


FIG. 22

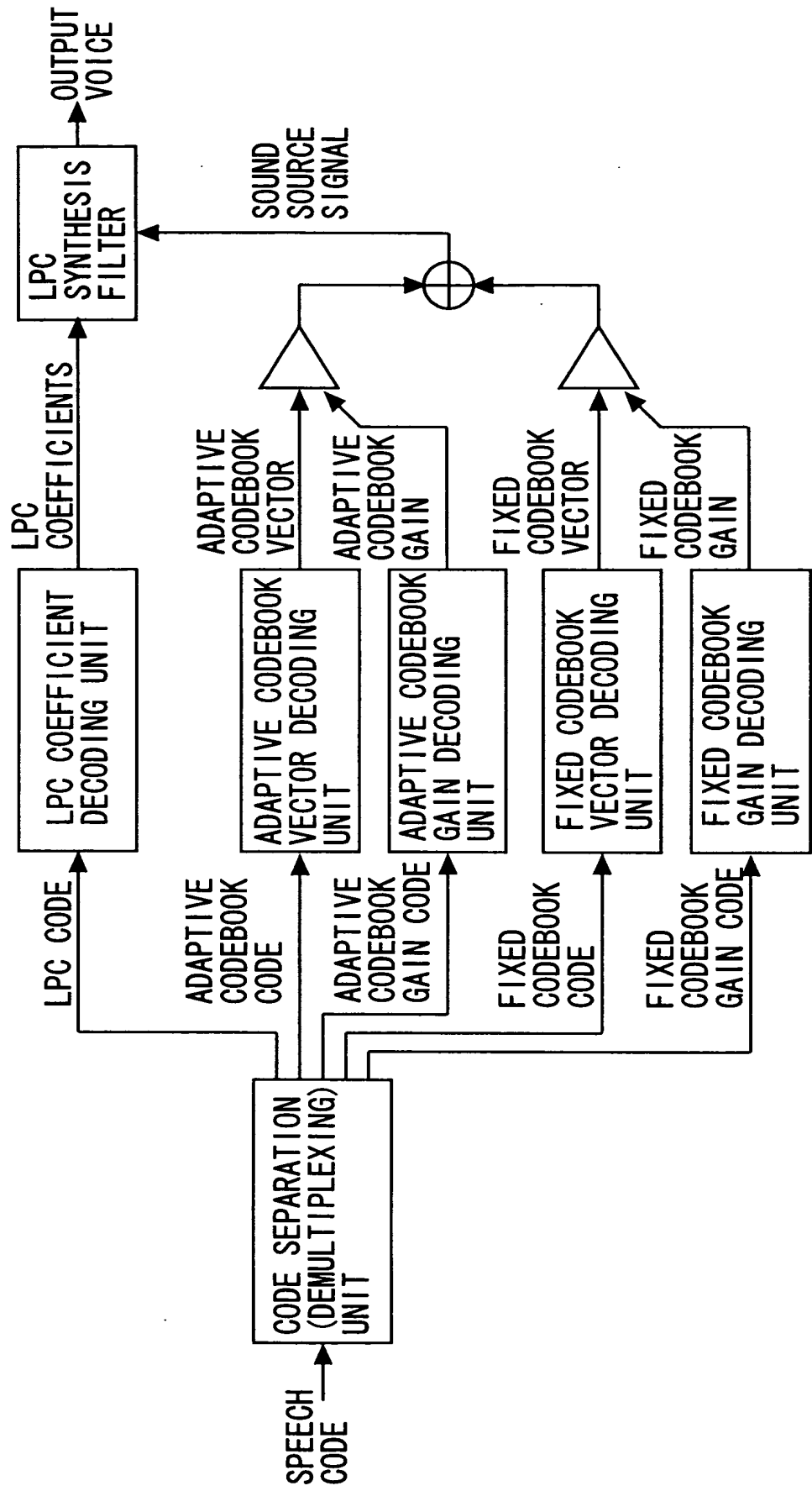


FIG. 23

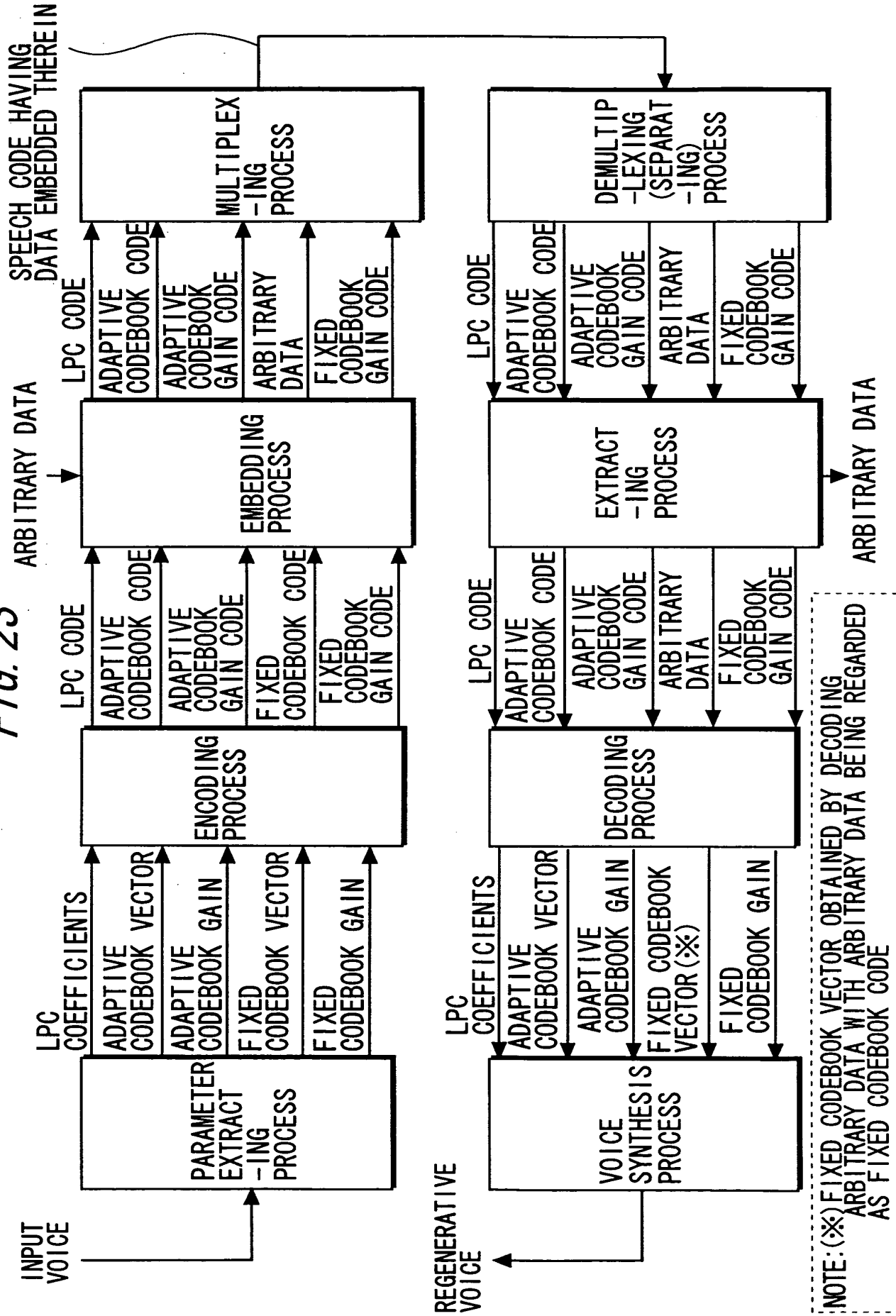


FIG. 24A

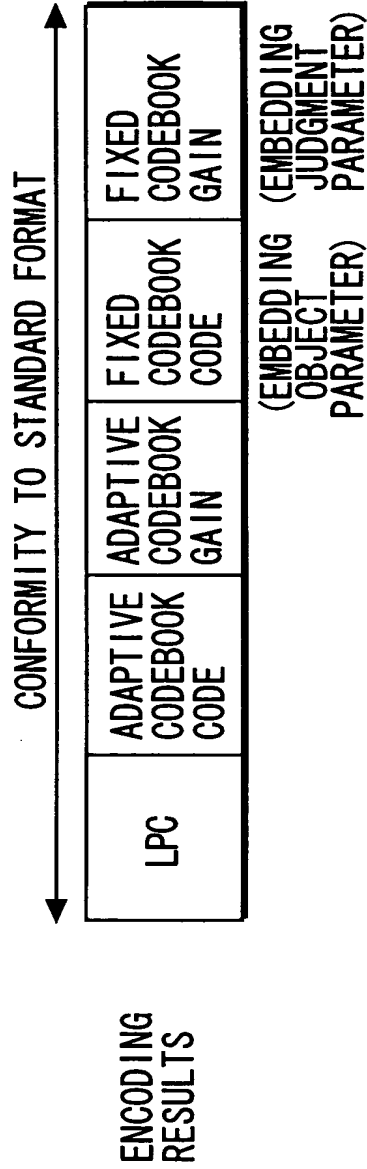


FIG. 24B

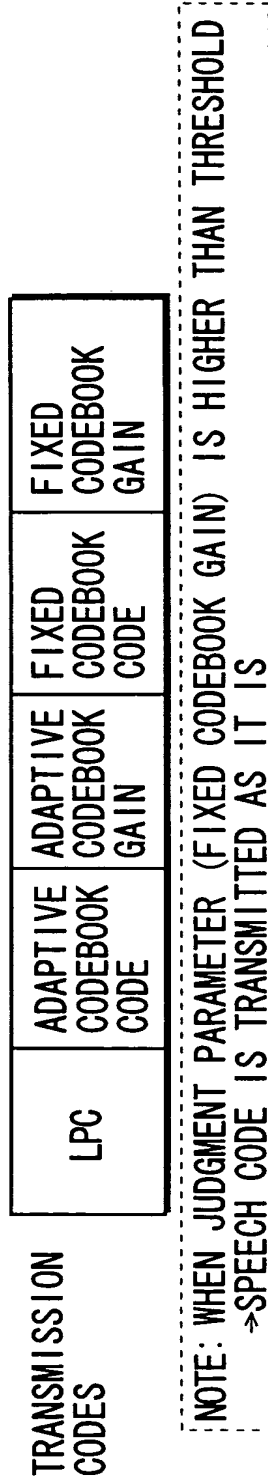


FIG. 24C

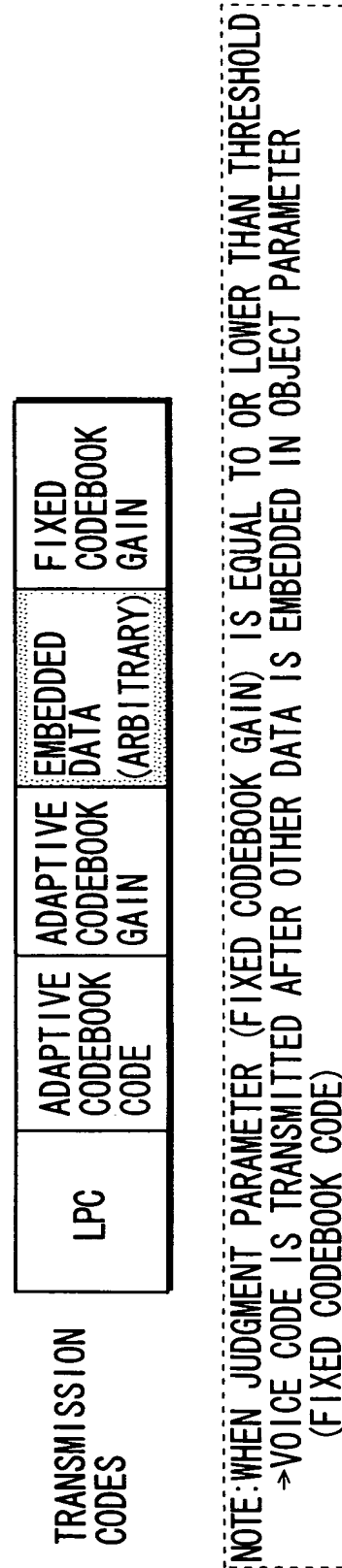




FIG. 25A

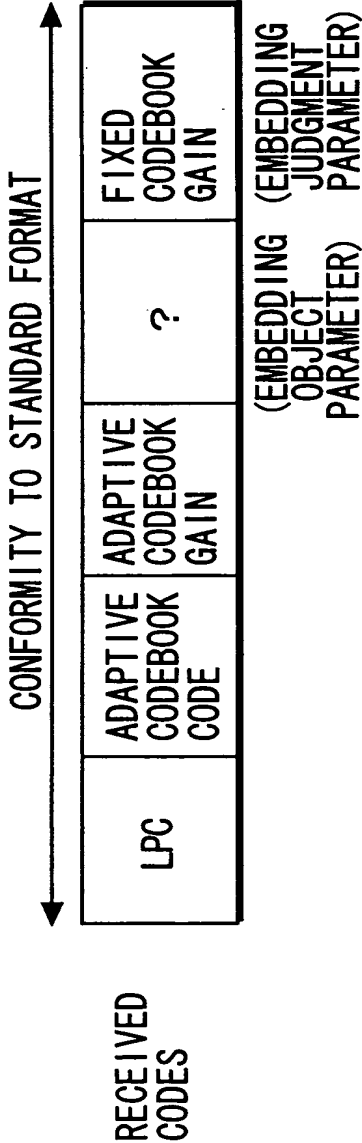


FIG. 25B

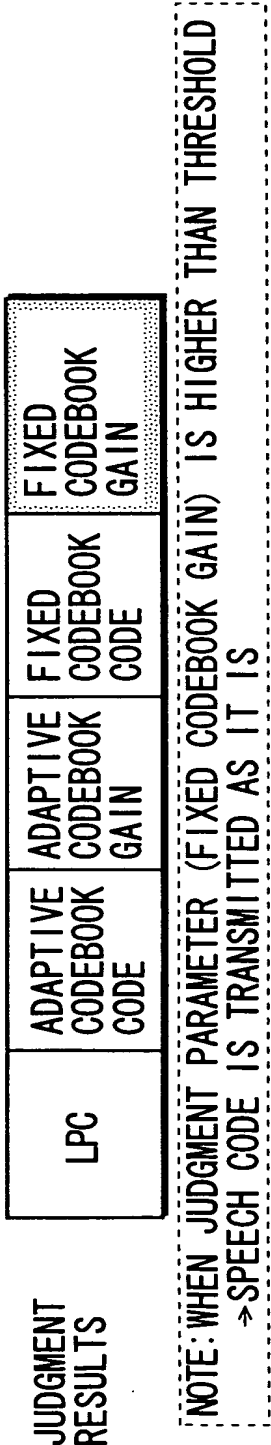
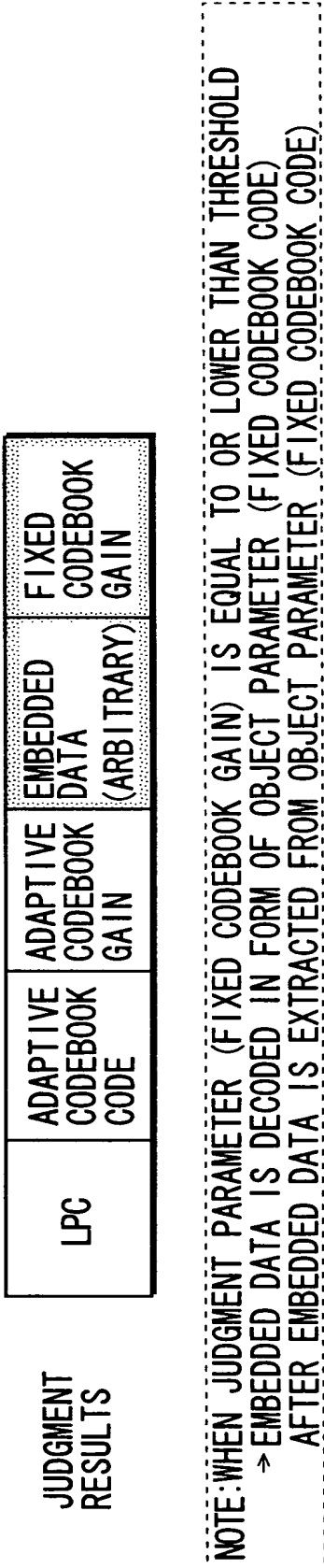


FIG. 25C



*FIG. 26A*

CONTINUOUS DISAPPEARANCE OF BLOCKS HAVING NUMBER SMALLER THAN  $2^x$  BITS

00	01	10	11	00	01	10	11	00	01	10	11	00	01
----	----	----	----	----	----	----	----	----	----	----	----	----	----

DETECTION OF CONTINUOUS DISAPPEARANCE OF BLOCKS MAY BE POSSIBLE SINCE SEQUENCE NUMBERS ARE DISCONTINUOUS BEFORE AND AFTER DISAPPEARANCE OF BLOCKS

*FIG. 26B*

CONTINUOUS DISAPPEARANCE OF BLOCKS HAVING NUMBER EQUAL TO 2 BITS

00	01	10	11	00	01	10	11	00	01	10	11	00	01
----	----	----	----	----	----	----	----	----	----	----	----	----	----

DETECTION OF CONTINUOUS DISAPPEARANCE OF BLOCKS IS IMPOSSIBLE SINCE CONTINUITY OF SEQUENCE NUMBERS ARE HELD BEFORE AND AFTER DISAPPEARANCE OF BLOCKS

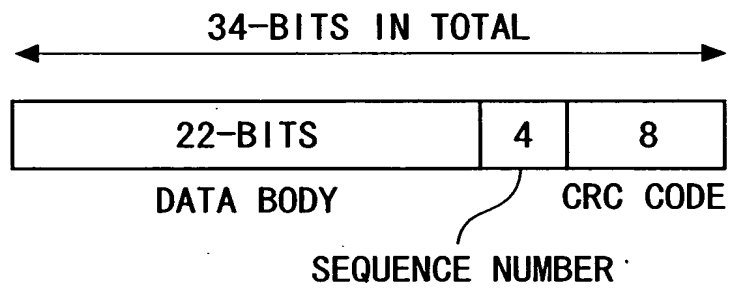
*FIG. 26C*

CONTINUOUS DISAPPEARANCE OF BLOCKS HAVING NUMBER EQUAL TO OR LARGER THAN  $(2^x + 1)$  BITS

00	01	10	11	00	01	10	11	00	01	10	11	00	01
----	----	----	----	----	----	----	----	----	----	----	----	----	----

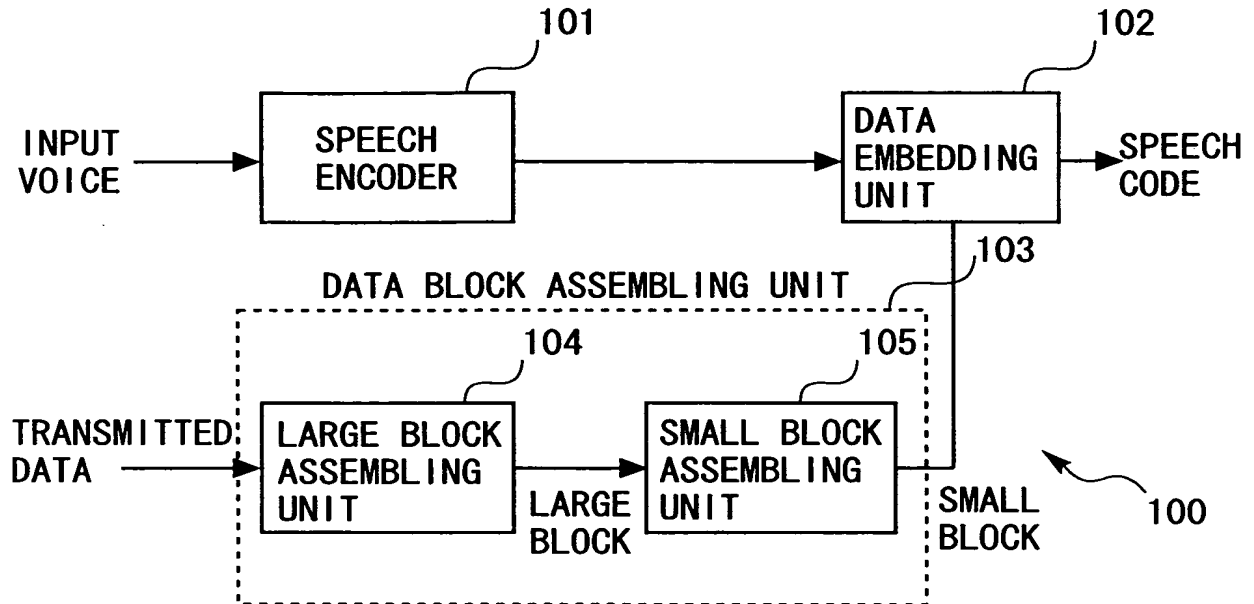
DETECTION OF CONTINUOUS DISAPPEARANCE OF BLOCKS IS POSSIBLE SINCE SEQUENCE NUMBERS ARE DISCONTINUOUS BEFORE AND AFTER DISAPPEARANCE OF BLOCKS HOWEVER, SINCE CONNECTION OF NUMBERS IS SAME AS THAT IN FIG. 26A  $\Rightarrow$  THERE IS POSSIBILITY THAT NUMBER OF DISAPPEARED BLOCKS IS COUNTED BY MISTAKE

*FIG. 27*



**FIG. 28A**

DATA TRANSMISSION SIDE (ENCODER SIDE)



**FIG. 28B**

DATA RECEPTION SIDE (DECODER SIDE)

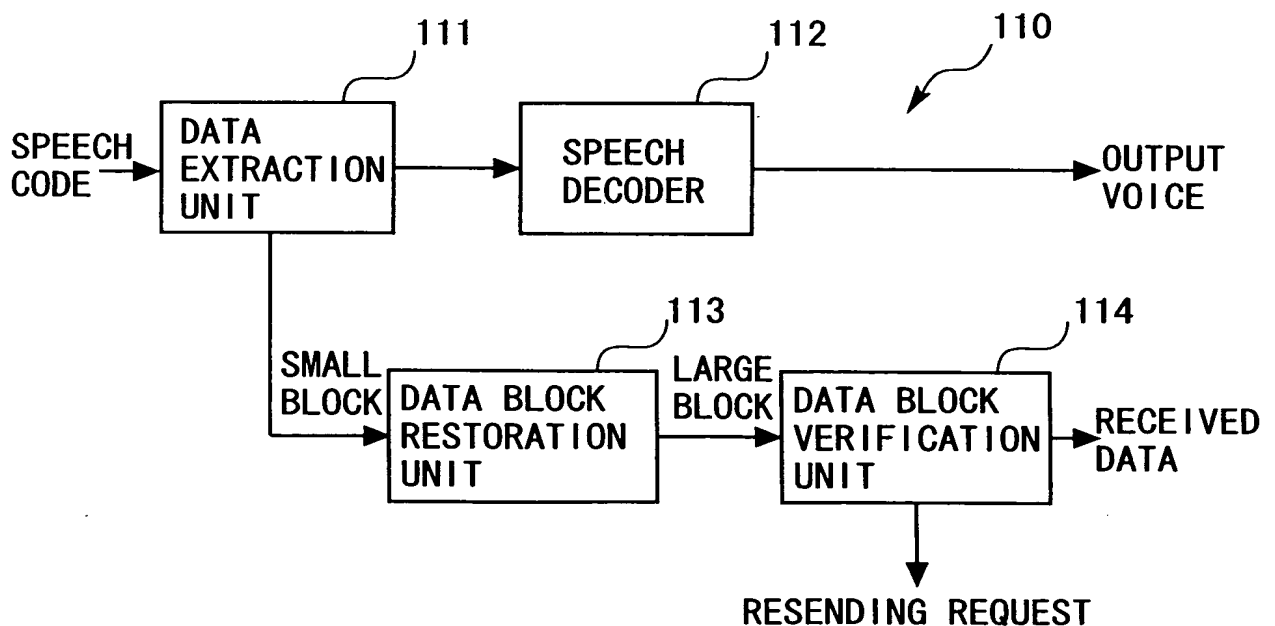


FIG. 29A



FIG. 29B

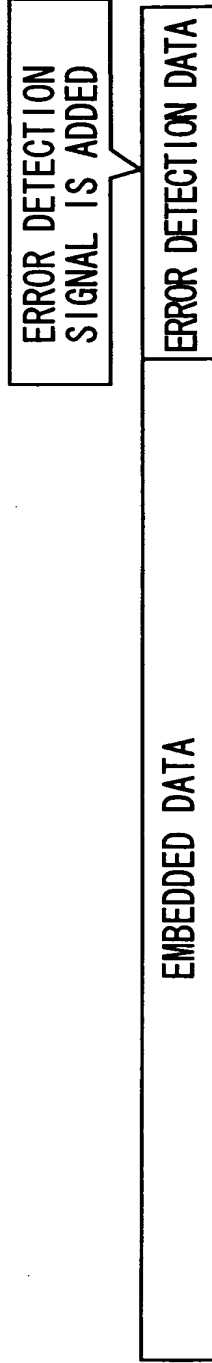


FIG. 29C

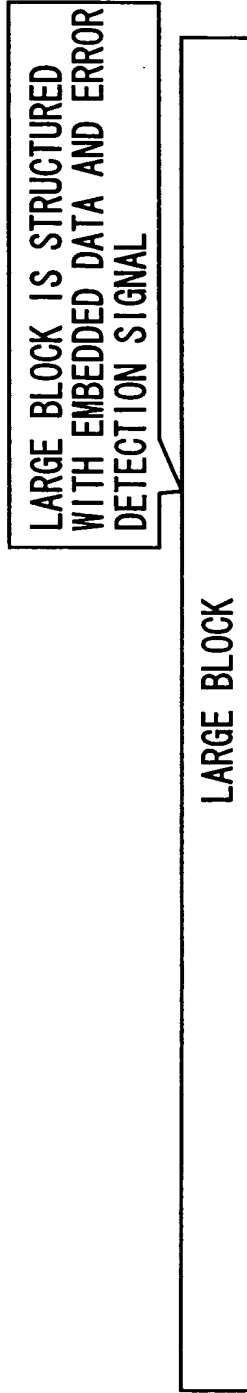
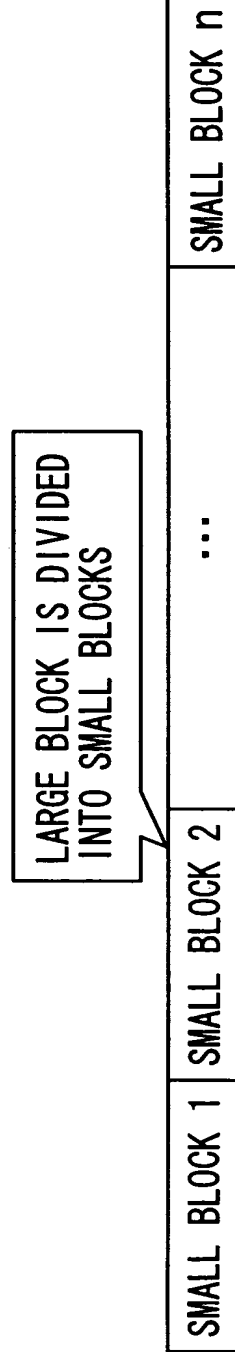


FIG. 29D



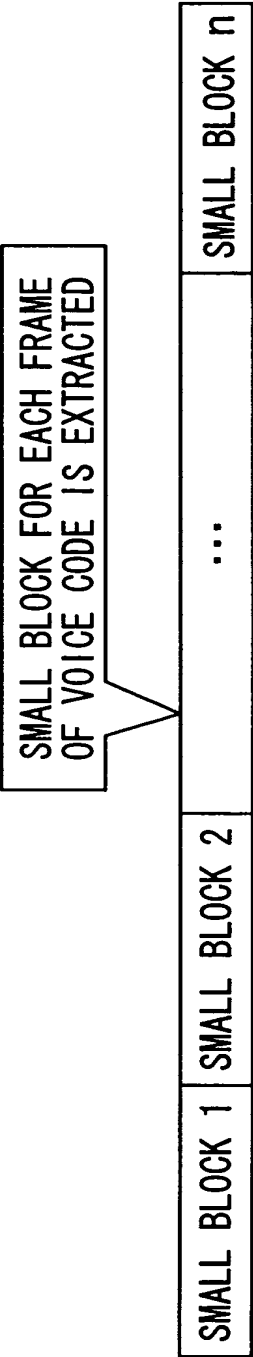


FIG. 30A

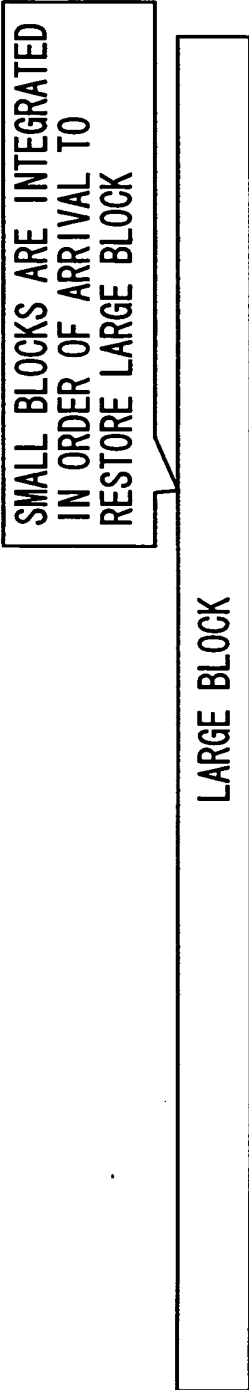


FIG. 30B

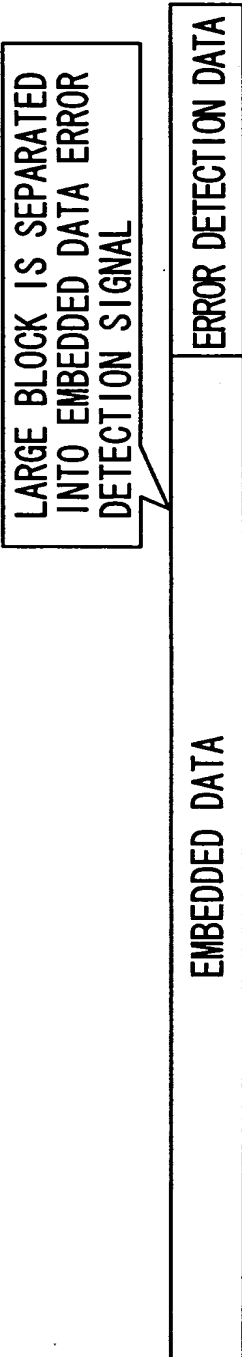
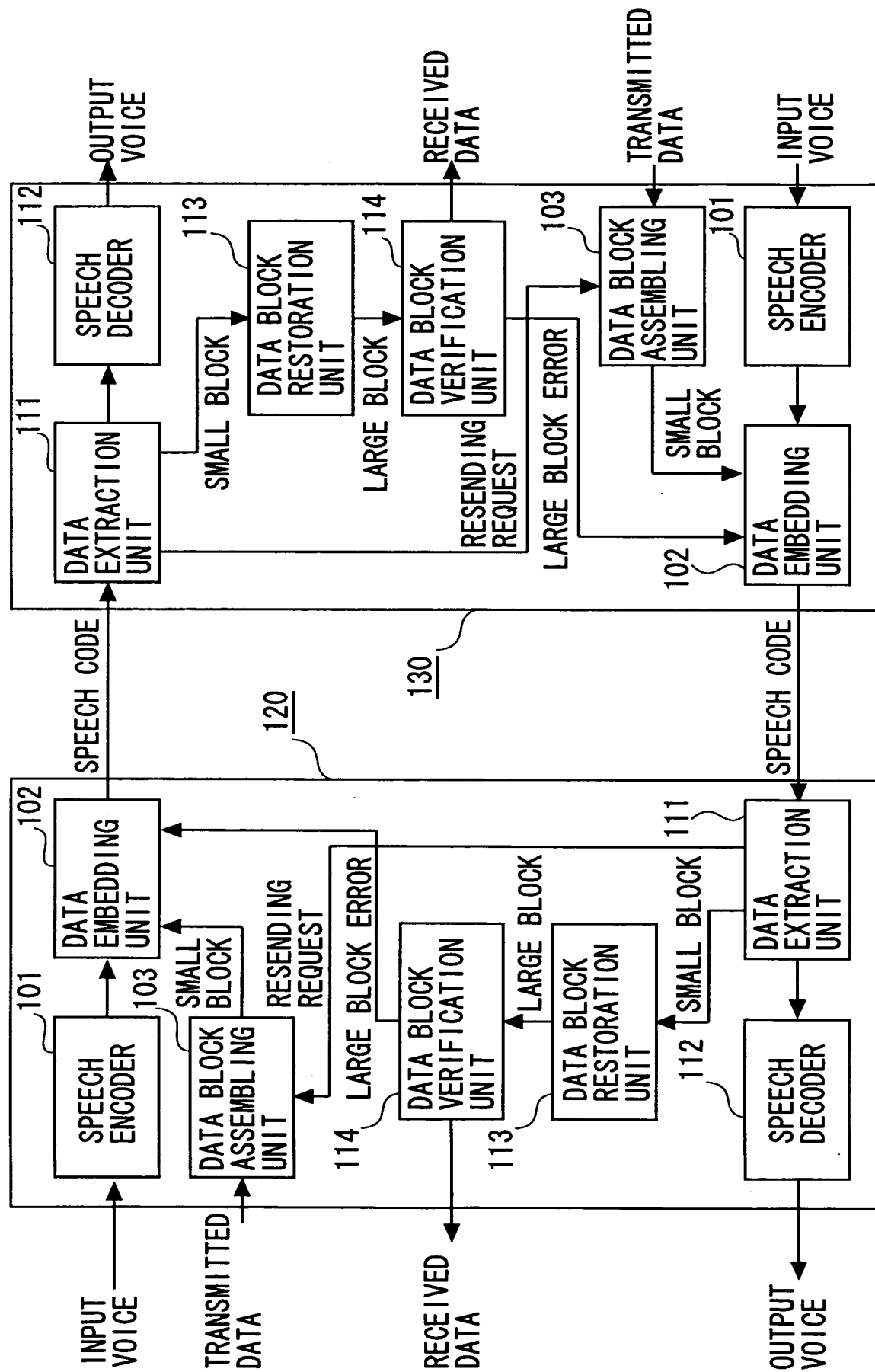


FIG. 30C

FIG. 31





158-BITS

EMBEDDED DATA

SEQUENCE NUMBER AND  
CRC CODE ARE ADDED



158

4

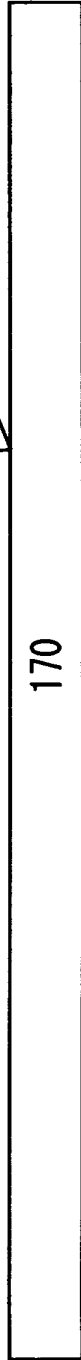
8

EMBEDDED DATA

SEQUENCE NUMBER

CRC CODE

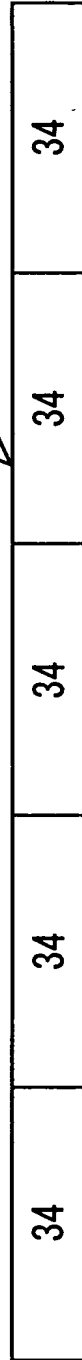
EMBEDDED DATA, SEQUENCE NUMBER,  
AND CRC CODE ARE COLLECTED TO  
STRUCTURE LARGE BLOCK



170

LARGE BLOCK

LARGE BLOCK IS DIVIDED  
INTO SMALL BLOCKS



34

34

34

34

34

SMALL BLOCK 1 SMALL BLOCK 2 SMALL BLOCK 3 SMALL BLOCK 4 SMALL BLOCK 5

FIG. 32A

FIG. 32B

FIG. 32C

FIG. 32D



FIG. 33

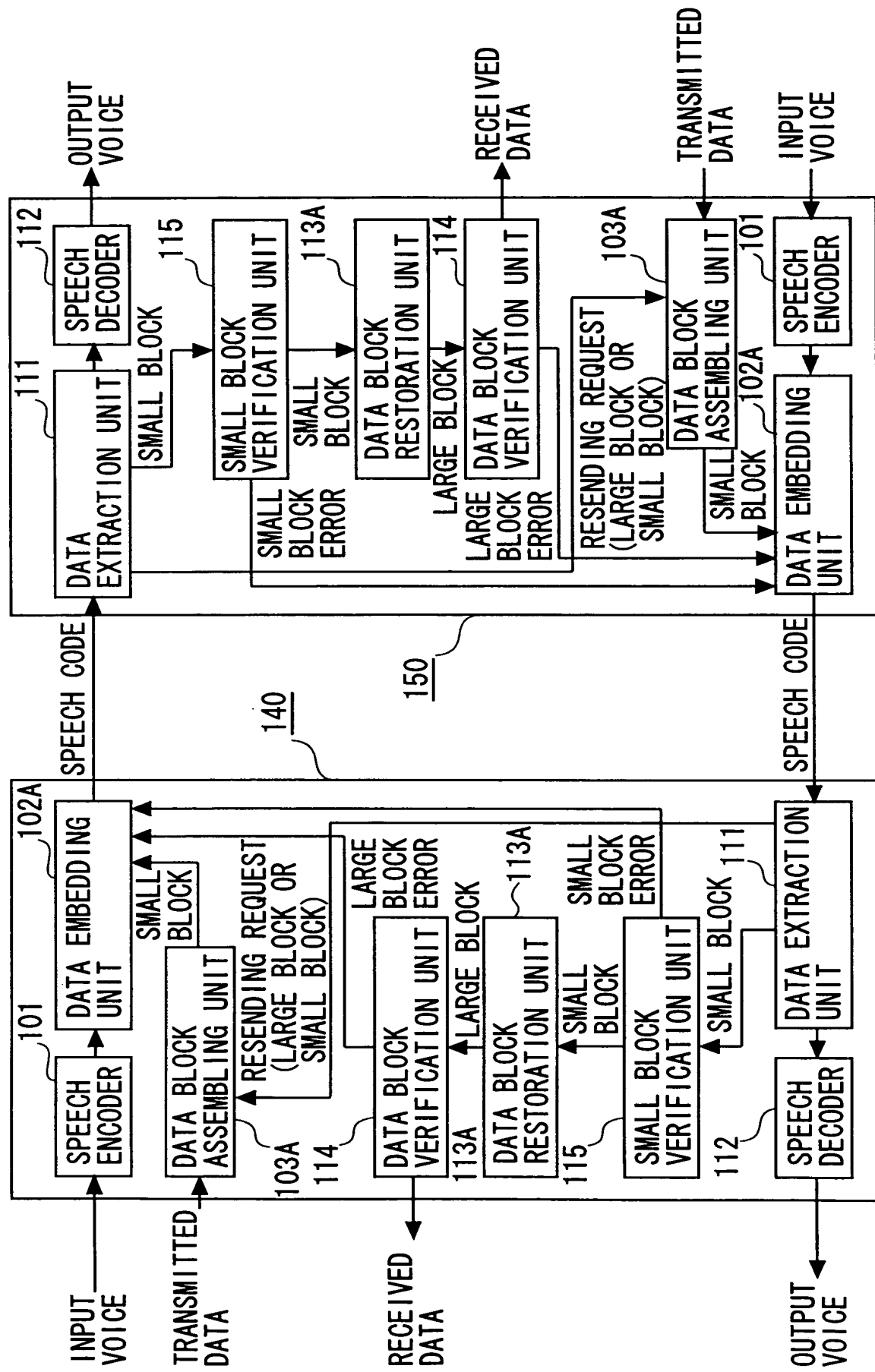
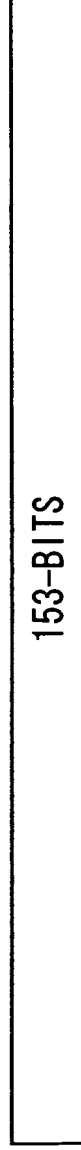


FIG. 34A

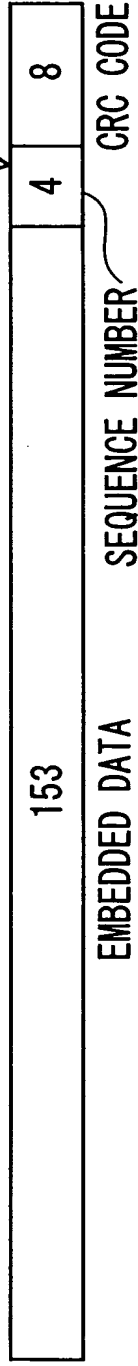


153-BITS

EMBEDDED DATA

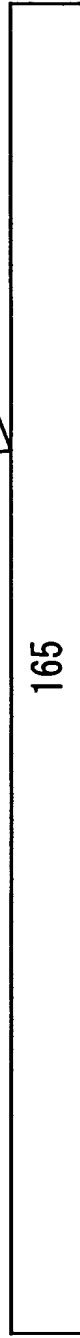
SEQUENCE NUMBER AND  
CRC CODE ARE ADDED

FIG. 34B



EMBEDDED DATA, SEQUENCE NUMBER,  
AND CRC CODE ARE COLLECTED TO  
STRUCTURE LARGE BLOCK

FIG. 34C



165

LARGE BLOCK IS DIVIDED  
INTO SMALL BLOCKS

FIG. 34D

